1-13. (Cancelled)

14. (Currently Amended) A catalyst ~~that has characteristics that facilitate a production of hydrocarbon from a syngas in a slurry bed,~~ comprising:

a spherical catalyst support on which cobalt is loaded, wherein an alkali metal content or an alkaline-earth metal content in the spherical catalyst support is in a range of approximately 0.01 mass% to 0.07 mass%,

wherein a diameter of the spherical catalyst support is in a range of approximately 20μm to 250μm, and

wherein the catalyst facilitates a production of hydrogen from a syngas in a slurry bed.

15. (Currently Amended) A catalyst ~~that has characteristics that facilitate a production of hydrocarbon from a syngas in a slurry bed,~~ comprising:

a spherical catalyst support on which cobalt is loaded, wherein an alkali metal content or an alkaline-earth metal content in the spherical catalyst support is in a range of approximately 0.01 mass% to 0.04 mass%,

wherein a diameter of the spherical catalyst support is in a range of approximately 20μm to 250μm, and

wherein the catalyst facilitates a production of hydrogen from a syngas in a slurry bed.

16. (Previously Presented) The catalyst according to claim 15, wherein the catalyst support simultaneously satisfies a pore diameter in a range of approximately 8 nm to 50 nm, a surface area in a range from 80 m^2/g to 550 m^2/g and a pore volume in a range from 0.5 mL/g to 2.0 mL/g.

17. (Previously Presented) The catalyst according to claim 14, wherein the catalyst support simultaneously satisfies a pore diameter in a range of approximately 8 nm to 50 nm, a surface area in a range from 80 m^2/g to 550 m^2/g and a pore volume in a range from 0.5 mL/g to 2.0 mL/g.

18. (Previously Presented) The catalyst according to claim 14, wherein the catalyst support allows the catalyst to have a fractured or pulverized ratio of at most 10% when an ultrasonic wave is emitted for approximately 4 hours at a room temperature to the catalyst dispersed in water.

19. (Previously Presented) The catalyst according to claim 15, wherein the catalyst support allows the catalyst to have a fractured or pulverized ratio of at most 10% when an ultrasonic wave is emitted for approximately 4 hours at a room temperature to the catalyst dispersed in water.

20. (Previously Presented) The catalyst according to claim 16, wherein the catalyst support allows the catalyst to have a fractured or pulverized ratio of at most 10% when

an ultrasonic wave is emitted for approximately 4 hours at a room temperature to the catalyst dispersed in water.

21. (Currently Amended) The catalyst according to claim 14, wherein the catalyst support is silica ~~having a spherical shape, and has a diameter in a range of approximately 20μm to 250μm~~.

22. (Currently Amended) The catalyst according to claim 15, wherein the catalyst support is silica ~~having a spherical shape, and has a diameter in a range of approximately 20μm to 250μm~~.

23. (Currently Amended) The catalyst according to claim 16, wherein the catalyst support is silica ~~having a spherical shape, and has a diameter in a range of approximately 20μm to 250μm~~.

24. (Currently Amended) The catalyst according to claim 17, wherein the catalyst support is silica ~~having a spherical shape, and has a diameter in a range of approximately 20μm to 250μm~~.

25. (Currently Amended) The catalyst according to claim 18, wherein the catalyst support is silica ~~having a spherical shape, and has a diameter in a range of approximately 20μm to 250μm~~.

26. (Currently Amended) The catalyst according to claim 19, wherein the catalyst support is silica ~~having a spherical shape, and has a diameter in a range of approximately 20μm to 250μm~~.

27. (Currently Amended) The catalyst according to claim 20, wherein the catalyst support is silica ~~having a spherical shape, and has a diameter in a range of approximately 20μm to 250μm~~.

28-41. (Cancelled)

42. (Previously Presented) The catalyst according to claim 14, wherein the cobalt is made from a precursor of cobalt of at least one of an alkali metal or alkaline-earth metal content of at most 5 mass%.

43. (Previously Presented) The catalyst according to claim 15, wherein the cobalt is made from a precursor of cobalt of at least one of an alkali metal or alkaline-earth metal content of at most 5 mass%.

44-55. (Cancelled)

56. (Withdrawn) A method for producing a catalyst which comprises a catalyst support on which a metallic compound is loaded, wherein an impurity content of a catalyst is in a range of approximately 0.01 mass% to 0.15 mass%, the method comprising:

pre-treating the catalyst support to lower an impurity concentration of the catalyst support; and

loading the metallic compound on the catalyst support after the pretreatment step.

57. (Withdrawn) The method according to claim 56, wherein the pretreatment step includes rinsing the catalyst support using at least one of acid or an ion-exchanged water.

58. (Withdrawn) The method according to claim 56, further comprising preparing the catalyst using the catalyst support obtained by rinsing water of an alkali metal or alkaline-earth metal content of at most 0.06 mass% during the production of the catalyst support.

59. (Withdrawn) The method according to claim 57, further comprising preparing the catalyst using the catalyst support obtained by rinsing water of an alkali metal or alkaline-earth metal content of at most 0.06 mass% during the production of the catalyst support.

60. (Withdrawn) The method according to claim 56, further comprising shaping the catalyst support to have a spherical shape using a spraying technique.

61. (Withdrawn) The method according to claim 57, further comprising shaping the catalyst support to have a spherical shape using a spraying technique.

62. (Withdrawn) The method according to claim 58, further comprising shaping the catalyst support to have a spherical shape using a spraying technique.

63. (Withdrawn) The method according to claim 59, further comprising shaping the catalyst support to have a spherical shape using a spraying technique.

64. (Withdrawn) The method according to claim 56, wherein the catalyst support is silica.

65. (Withdrawn) The method according to claim 57, wherein the catalyst support is silica.

66. (Withdrawn) The method according to claim 58, wherein the catalyst support is silica.

67. (Withdrawn) The method according to claim 59, wherein the catalyst support is silica.

68. (Withdrawn) The method according to claim 60, wherein the catalyst support is silica.

69. (Withdrawn) The method according to claim 61, wherein the catalyst support is silica.

70. (Withdrawn) The method according to claim 62, wherein the catalyst support is silica.

71. (Withdrawn) The method according to claim 63, wherein the catalyst support is silica.

72. (Withdrawn) A method for producing hydrocarbon, comprising:

generating the hydrocarbon from a syngas using a catalyst which is in a range of approximately 0.01 mass% to 0.15 mass%.

73. (Previously Presented) The catalyst according to claim 14, wherein a CO conversion is 40% or more.

74. (Previously Presented) The catalyst according to claim 15, wherein a CO conversion is 40% or more.